CLAIMS

What is claimed is:

1.   A network management system comprising:

a plurality of element management servers to manage a set of network elements,

one of said plurality of element management servers to be designated as the

master server, said master server to determine which of said plurality of

element management servers to manage each of said set of one or more

network elements; and

a peered service resident on each of said plurality of element management servers

to handle a request from a client.

2.   The network management system of claim 1 where each of said plurality of

element management server includes:

a federated service, said federated service to access data stored in a element

management server memory, said element management server memory

includes data to describe each of said set of network elements to be

managed by each of said plurality of element management servers.

3.   The network management system of claim 2 where said federated service to access

nodal alarm data in said element management server memory.

4.   The network management system of claim 2 where said federated service to

provide data to a data store.

5.   The network management system of claim 2 where said federated service to

provide event log data to a data store.

6.   The network management system of claim 1 where said master server to determine

which of said plurality of element management servers to manage each of said set

of network elements.

7.   The network management system of claim 1 where said plurality of element management servers to determine which of said plurality of element management servers is designated as said master server.

8.   The network management system of claim 7 where said plurality of element management servers to determine with a bully algorithm which of said plurality of element management servers is designated as said master server.

9.   The network management system of claim 1 where said peered service resident on said plurality of element management servers to access a database to handle said request.

10.   The network management system of claim 1 where said peered service resident on said plurality of element management servers to access event log data in said database.

11.   The network management system of claim 1 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request.

12.   The network management system of claim 11 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request further comprises:
said peered service resident on said plurality of element management servers
        accessing a data store for routing information used to calculate said circuit route.

13.   The network management system of claim 11 where said peered service resident on said plurality of element management servers to calculate said circuit route to handle said request further comprises:
said peered service
        selecting which of said plurality of element management servers that
                manage said set of network elements to perform a circuit sub-route
                calculation, said circuit-route calculation to calculate a circuit route

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for said set of network elements managed by said selected plurality of element management servers;

transmitting a message to said selected plurality of element management servers, said message directing said selected plurality of element management servers to calculate said circuit sub-route for said set of network elements managed by said selected plurality of element management servers;

receiving said circuit sub-route from said selected plurality of element management servers; and

consolidating said circuit sub-route into said circuit route.

14. The network management system of claim 1 where said client to randomly select one of said plurality of element management servers to handle said request.

15. The network management system of claim 1 where said client to randomly access a peered service on said plurality of element management servers.

16. The network management system of claim 1 where said client to generate a view of said of network elements and said plurality of element management servers from data stored in a database.

17. The network management system of claim 1 where said client to randomly access a federated service on said plurality of element management servers.

18. The network management system of claim 1 where said client to generate a view of said set of network elements and said plurality of element management servers from data stored in said element management server memory.

19. A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:

receiving a request to calculate a circuit route, said circuit route calculation to be performed on a set of one or more network elements, said set of network

elements to be managed by a set of one or more element management servers;

selecting which of said plurality of element management servers that manage said set of network elements to perform a circuit sub-route calculation, said circuit-route calculation to calculate a circuit route for said set of network elements managed by said selected plurality of element management servers;

transmitting a message to said selected plurality of element management servers, said message directing said selected plurality of element management servers to calculate said circuit sub-route for said set of network elements managed by said selected plurality of element management servers;

receiving said circuit sub-route from said selected plurality of element management servers; and

consolidating said circuit sub-route into said circuit route.

20.   The machine-readable medium of claim 19 further comprising:

provisioning a circuit along said circuit route.

21.   A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:

receiving a request to calculate a circuit sub-route, said circuit sub-route calculation to be performed on a set of one or more network elements, said set of network element to be managed by a element management server, said request to include a destination of said route;

calculating said circuit sub-route; and

replying to said request, said reply including said calculated circuit sub-route.

22.   The machine-readable medium of claim 21 where said calculating said circuit sub-route includes:

communicating with a topology inference engine to discover the routing
relationships between said set of network elements.

23. A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:
pooling a plurality of element management servers, said plurality of element management servers to manage a set of network elements;
designating a master server from said plurality of element management servers, said master server to determine which of said plurality of element management servers to manage each of said set of network elements; and
receiving a request from a client, said request to be handled by a peered service resident on each of said plurality of element management servers.

24. The machine-readable medium of claim 23 further comprising:
receiving a request for data stored in element management server memory, said request to be handled by a federated service, said federated service to access said data stored in element management server memory, said data to describe each of said set of network elements to be managed by said plurality of element management servers.

25. The machine-readable medium of claim 24 where said federated service to access nodal alarm data in said element management server memory.

26. The machine-readable medium of claim 24 where said federated service to provide data to a data store.

27. The machine-readable medium of claim 24 where said federated service to provide event log data to a data store.

28. The machine-readable medium of claim 23 where said master server to determine which of said plurality of element management servers to manage each of said set of network elements.

29. The machine-readable medium of claim 23 where said plurality of element management servers to determine which of said plurality of element management servers is designated as said master server.

30. The machine-readable medium of claim 29 where said plurality of element management servers to determine with a bully algorithm which of said plurality of element management servers is designated as said master server.

31. The machine-readable medium of claim 23 where said peered service resident on said plurality of element management servers to access a database to handle said request.

32. The machine-readable medium of claim 23 where said peered service resident on said plurality of element management servers to access event log data in said database.

33. The machine-readable medium of claim 23 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request.

34. The machine-readable medium of claim 33 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request further comprises:
said peered service resident on said plurality of element management servers
    accessing a data store for routing information used to calculate said circuit
    route.

35. The machine-readable medium of claim 33 where said peered service resident on said plurality of element management servers to calculate said circuit route to handle said request further comprises:

said peered service

> selecting which of said plurality of element management servers that manage said set of network elements to perform a circuit sub-route calculation, said circuit-route calculation to calculate a circuit route for said set of network elements managed by said selected plurality of element management servers;

> transmitting a message to said selected plurality of element management servers, said message directing said selected plurality of element management servers to calculate said circuit sub-route for said set of network elements managed by said selected plurality of element management servers;

> receiving said circuit sub-route from said selected plurality of element management servers; and

> consolidating said circuit sub-route into said circuit route.

36. The machine-readable medium of claim 23 where said client to randomly select one of said plurality of element management servers to handle said request.

37. The machine-readable medium of claim 23 where said client to randomly access a peered service on said plurality of element management servers.

38. The machine-readable medium of claim 23 where said client to generate a view of said of network elements and said plurality of element management servers from data stored in a database.

39. The machine-readable medium of claim 23 where said client to randomly access a federated service on said plurality of element management servers.

40. The machine-readable medium of claim 23 where said client to generate a view of said set of network elements and said plurality of element management servers from data stored in said element management server memory.